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## (12) United States Patent

#### Karino et al.

# (54) INTEGRATED CIRCUIT AND SEMICONDUCTOR DEVICE

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## (57) ABSTRACT

An integrated circuit in which a voltage divider circuit is integrated comprises a first resistor, second resistor, control portion, switch, and switching portion. The first resistor and second resistor form a resistive voltage divider element for dividing a voltage obtained by rectifying an alternating-current voltage, or a direct-current voltage, supplied to a control portion. The switch is provided in series with the resistive voltage divider element, and passes or cuts off current passing through the resistive voltage divider element. The switching portion switches the switch so as to pass current during driving of the control portion, and cut off current during standby of the control portion.

## 19 Claims, 37 Drawing Sheets

